

Claims

1
2
3 1. A method, including steps of
4 selecting an acceptable error for one or more quantization types included
5 in a scene graph for a multi-media presentation;
6 selecting an order for one or more nodes included in a set of nodes in said
7 scene graph;
8 making a determination whether to insert a quantization parameter node to
9 the left of a particular node included in said set of nodes, wherein said determination is
10 performed upon one or more nodes in said set of nodes in the reverse of said order and
11 said determination is responsive to the range of values at said node and said acceptable
12 error; and
13 inserting said quantization parameter node in response to said
14 determination.

15
16 2. A method as in claim 1, wherein said acceptable error is selected in
17 response to at least one of the following: screen resolution, a fixed percentage of the
18 range of values for one or more quantization types, or a percentage of differences of
19 successive related values.

20
21 3. A method as in claim 1, wherein said quantization parameter node
22 includes the maximum and minimum values for parameter values included in one or more
23 nodes in said scene graph.

1 4. A method as in claim 1, wherein said order of nodes is determined
2 in a depth first traversal of said scene graph beginning with the left most node in said set
3 of nodes and proceeding depth first, to the right most node of said set of nodes.

4

5 5. A method as in claim 1, wherein said quantization parameter node
6 is not inserted to the left of a right most sibling.

7

8 6. A method as in claim 1, wherein said step of making a
9 determination begins at the second node to the right in a group of siblings included in said
10 set of nodes.

11

12 7. A method as in claim 1, wherein said quantization nodes are
13 distributed in said scene graph so that each said quantization parameter node corresponds
14 to a cluster of values.

15

16 8. A method as in claim 1, including steps of
17 returning said parameter types to an approximation of their original values;
18 and
19 presenting said multimedia presentation to a user.

20

21 9. A method as in claim 1, wherein said step of making a
22 determination includes comparing the cost of inserting said quantization parameter node
23 with the cost of using a different quantization parameter node to quantize the values.

1 10. A memory storing information including instructions, the
2 instructions executable by a processor, the instructions including
3 selecting an acceptable error for one or more quantization types included
4 in a scene graph for a multi-media presentation;
5 selecting an order for one or more nodes included in a set of nodes in said
6 scene graph;
7 making a determination whether to insert a quantization parameter node to
8 the left of a particular node included in said set of nodes, wherein said determination is
9 performed upon one or more nodes in said set of nodes in the reverse of said order and
10 said determination is responsive to the range of values at said node and said acceptable
11 error; and
12 inserting said quantization parameter node in response to said
13 determination.

14
15 11. A memory as in claim 10, wherein said acceptable error is selected
16 in response to at least one of the following: screen resolution, a fixed percentage of the
17 range of values for one or more quantization types, or a percentage of differences of
18 successive related values.

19
20 12. A memory as in claim 10, wherein said quantization parameter
21 node includes the maximum and minimum values for parameter values included in one or
22 more nodes in said scene graph.

1 13. A memory as in claim 10, wherein said order of nodes is
2 determined in a depth first traversal of said scene graph beginning with the left most node
3 in said set of nodes and proceeding depth first, to the right most node of said set of nodes.

4
5 14. A memory as in claim 10, wherein said quantization parameter
6 node is not inserted to the left of the right most sibling.

7
8 15. A memory as in claim 10, wherein said instruction of making a
9 determination begins at the second node to the right in a group of siblings included in said
10 set of nodes.

11
12 16. A memory as in claim 10, wherein said quantization nodes are
13 distributed in said scene graph so that each said quantization parameter node corresponds
14 to a cluster of values.

15
16 17. A memory as in claim 10, including instructions of
17 returning said parameter types to an approximation of their original values;
18 and
19 presenting said multimedia presentation to a user.

20
21 18. A memory as in claim 10, wherein said instruction of making a
22 determination includes comparing the cost of inserting said quantization parameter node
23 with the cost of using a different quantization parameter node to quantize the values.